

Appln. No. 10/789,498
Amendment dated May 24, 2005
Reply to Office Action of March 3, 2005

Amendments to the Claims:

Please amend claims 1, 4 and 6 as follows. The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended). An AC adapter for use in charging a secondary battery which is contained in or mounted on a main body, said AC adapter comprising:

5 a primary side circuit for turning, by using a switching element, an input DC voltage applied to a primary winding of a transformer on and off;

a secondary side circuit for rectifying and smoothing an AC voltage induced in a secondary winding of said transformer to produce an adapter voltage;

10 a voltage control circuit for detecting a variation of said adapter voltage to produce a voltage control signal;

a constant current control circuit for detecting a charging current flowing in said secondary side circuit to produce a constant current control signal;

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- 15 a photocoupler for feeding said voltage control signal and
said constant current control signal as a feedback signal back to
said primary side circuit;
- a switching control circuit for controlling, in response to
said feedback signal, on and off of said switching element; and
- 20 detection means, disposed in said secondary side circuit,
for detecting that said charging current decreases less than a
set current value to produce a detected signal, whereby said
voltage control circuit operates so as to have repeated
~~repeatedly~~ operations comprising the steps of gradually lowering
- 25 said adapter voltage and ~~of heightening~~ increasing, in response
to said detected signal, said adapter voltage by a predetermined
voltage.

Claim 2 (Original). An AC adapter as claimed in claim 1,
wherein said main body comprises a portable telephone set.

Claim 3 (Original). An AC adapter as claimed in claim 1,
wherein said predetermined voltage is equal to 100 millivolts.

Claim 4 (Currently Amended). An AC adapter as claimed in
claim 1, ~~wherein~~ further comprising a reference voltage

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generating circuit for supplying a reference voltage to said
voltage control circuit, said voltage control circuit controlling
5 said adapter voltage so as to change said adapter voltage by
changing said reference voltage supplied by said reference
voltage generating circuit.

Claim 5 (Original). An AC adapter as claimed in claim 4,
wherein said main body comprises a portable telephone set.

Claim 6 (Currently Amended). A method of charging, by using
an adapter voltage, a secondary battery which is contained in or
mounted on a main body, said method comprising the steps of:

- a) gradually lowering said adapter voltage;
- 5 b) ~~heightening~~ increasing said adapter voltage by a
predetermined voltage when a charging current flowing through
said secondary battery is less than a set current value; and
- c) repeating said steps a) and b).

Claim 7 (Original). A method as claimed in claim 6, wherein
said predetermined voltage is equal to 100 millivolts.